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| Term | Documents |
|------------------------------------------|-----------|
| AIKENYL DWPLTDBD.FPAB.JPAB.USPT. | 178035 |
| AIKENYLS DWPLTDBD.FPAB.JPAB.USPT. | 1475 |
| (6 AND AIKENYL) USPT.JPAB.FPAB.DWPLTDBD. | 3 |
| (6 AND AIKENYL) USPT.JPAB.FPAB.DWPLTDBD. | 3 |

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DB USPT.JPAB.FPAB.DWPLTDBD, PLUR YES; OP ADJ

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|----|-------------------------------------------------------------------------------------------------------------------------------|----|----|
| 17 | 16 and alkenyl | 3 | 17 |
| 16 | 15 and negative | 3 | 16 |
| 15 | us-5980778-S did. or us-5866035-S did. or us-5798058-S did. or us-5582764-S did. or us-5380462-S did. or us-5204019-S did. | 15 | 15 |
| 14 | US-6066268-S did. | 2 | 14 |
| 13 | US-6395353-S did. | 2 | 13 |
| 12 | US-6217953-S did. | 2 | 12 |
| 11 | WO-9827036-S did. | 2 | 11 |

END OF SEARCH HISTORY

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LIT Entry 1 of 3

File: WEST

DOCUMENT IDENTIFIER: 00004-000-A

TITLE: Liquid crystal composition and liquid crystal display element comprising the same

Abstract Text (1):

The invention presents an excellent liquid crystal display composition possessing a negative dielectric anisotropy, comprising one or more compounds selected from the group consisting of formulas I, II, III, IV and V, ##STR1## where R¹ and R² are alkyl, alkoxyalkyl, mono- or difluoroalkyl, or alkenyl, with each group having 2 to 7 carbon atoms; n, i, j, and k denote 1 or 1 with proviso that i+j+k must be 1, 1 or 2; a six membered ring expressed by A, B, or C respectively represents any one of trans-1-sila-1,4-cyclohexylene, trans-4-sila-1,4-cyclohexylene, or trans-1,4-cyclohexylene group; L represents F; and L¹ and L² represent H or F; n is 1, 1 or 2; and R³ is H, F, sup.1 or F, sup.1, in which at least one compound thereof contains trans-1-sila-1,4-cyclohexylene group or trans-4-sila-1,4-cyclohexylene group.

Brief Summary Text (8):

The action modes of the reflection type liquid crystal display include DS (dynamic scattering) mode, ECB (electrically controlled birefringence) mode, CH (guest host) mode, and others, and in certain types it is required to use a liquid crystal material with a negative value of $\Delta\epsilon$ (dielect. cons. - dielectric constant anisotropy).

Brief Summary Text (9):

Hitherto known independent liquid crystal compounds with negative $\Delta\epsilon$ (elect. cons. values include: ##STR2## where R¹ and R² are represented by an alkyl or alkoxy group with each group having 1 to 10 carbon atoms (Japanese Patent Provisional Publication No. 61-26694), ##STR3## where R¹ and R² are an alkyl or alkoxy group with each group having 1 to 10 carbon atoms; the sum of q and r equals 1 or 2; L represents a single bond, CH₂sub.1, CH₂sub.2, CH₂sub.3, CO, or CO₂sub.1; X¹ and X² represent H, F, Cl, Br, or CN (Japanese Patent Provisional Publication No. 60-199640), ##STR4## where R¹ and R² are non-substituted or substituted alkyl groups with each group having 1 to 10 carbon atoms, Q is CO or CH₂sub.2 (Japanese Patent Provisional Publication No. 2-603436), and other compounds having a partial structure with positions 2 and 3 of a 1,4-substituted phenylene group substituted by F, CN, etc., and other compounds having a partial structure with axial position of 1 or 4 of a 1,4-substituted cyclohexylene group substituted by F, CN such as ##STR5## (Japanese Patent Provisional Publication No. 60-226695).

Brief Summary Text (10):

We have already filed applications related to hitherto unknown liquid crystal compounds containing silacyclhexane rings in their molecular structure (see the list of the references at the end). The composition of the present invention related to a mixture composed of one or more of these liquid crystal compounds only, or containing them as part of constituent components, having a negative $\Delta\epsilon$ (dielect. cons. - dielectric constant anisotropy).

Brief Summary Text (11):

The composition of the present invention comprises one or more compounds selected from the group consisting of formulas I, II, III, IV and at least one compound selected from the group consisting of a compound containing trans-1-sila-1,4-cyclohexylene group or trans-4-sila-1,4-cyclohexylene group, ##STR6## where R¹ and R² are alkyl having 2 to 7 carbon atoms, respectively, and n is 1 or 2, and at least one compound containing a six membered ring expressed by A, B, or C.

alkenyl group having 2 to 7 carbon atoms, and an alkenyl group having 2 to 7 carbon atoms; h, i, j, and k denote 0 or 1 with the proviso that i+j+k is 0, 1, 2, or 3; a six membered ring expressed by A, B, and C respectively represents any one of trans 1,4-cyclohexylene, trans 4,4'-1,4-cyclohexylene, or trans 1,4-cyclophenylene group; L represents F; L.sup.1 and L.sup.2 represent H or F; n is 0, 1 or 2; and R.sup.2 represents H, R.sup.1 or PR.sup.1.

Brief Summary Text 21 :

Among operation modes of reflection type liquid crystal displays using a liquid crystal material with a negative dielectric anisotropy, an active matrix system may be employed as the driving mode. In such a case, a signal voltage retention characteristic is required for maintaining good image display quality. This signal voltage retention characteristic means the degree of lowering of the signal voltage applied to the TFT pixels containing liquid crystal in a given frame period. Therefore, without lowering of the signal voltage, that is, when the voltage retention percentage is 100%, the configuration of liquid crystal molecules remains unbroken, and the contrast does not fade. This voltage retention characteristic is also affected by the environment in which a liquid crystal panel is used, and the period during which this characteristic is remains excellent tends to be shorter when exposed to high intensity light such as liquid crystal panels used for projection, or to high temperatures as liquid crystal panels in automobiles.

Brief Summary Text 29 :

(d) Alkenyl groups with 2 to 7 carbon atoms, that is:

Brief Summary Text 46 :

(h) Of alkenyl groups with 2 to 7 carbon atoms:

Brief Summary Text 64 :

The liquid crystal composition of the present invention is characterized by negative values for the dielectric constant anisotropy (DELTA.di elect cons.), its absolute value (vertline.DELTA.di elect cons.vertline) being larger than that of the composition composed of conventional liquid crystal compounds alone, high voltage retention, and relatively low viscosity.

Detailed Description Text 11 :

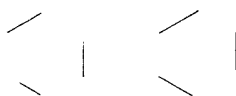
Thus, the mixed composition of the above three compounds possesses a negative dielectric constant anisotropy (DELTA.di elect cons.) having the larger absolute value than the respective values for two pure compounds, and presents the intended effects of the present invention.

CLAIMS:

1. A liquid crystal composition comprising two or more compounds selected from the group consisting of formulas I, III, IV and V, ##STP28## where R.sup.1 is an alkyl group having 2-7 carbon atoms, an alkoxyalkyl group having 2-7 carbon atoms, a mono or difluoroalkyl group having 2-7 carbon atoms, or an alkenyl group having 2 to 7 carbon atoms; h, i, j, and k denote 0 or 1 with the proviso that i+j+k is 0, 1, 2, or 3; a six membered ring expressed by A, B, and C respectively represents any one of trans 1,4-cyclohexylene, trans 4,4'-1,4-cyclohexylene, or trans 1,4-cyclophenylene group; L represents F; and L.sup.1 and L.sup.2 represent H or F; n is 0, 1 or 2; and R.sup.2 represents H, R.sup.1 or PR.sup.1, wherein at least two compounds thereof contains trans 1,4-cyclohexylene group or trans 4,4'-1,4-cyclohexylene group.

4. A liquid crystal composition comprising one or more compounds selected from the group consisting of: ##STP28## wherein R.sup.1 is an alkyl group having 2-7 carbon atoms, an alkoxyalkyl group having 2-7 carbon atoms, a mono or difluoroalkyl group having 2-7 carbon atoms, or an alkenyl group having 2-7 carbon atoms; h, i, j, and k denote 0 or 1, with the proviso that i+j+k is 0, 1, 2, or 3; and for formula I, A, B, and C and h is 1; a six membered ring expressed by A, B, and C respectively represents any one of trans 1,4-cyclohexylene, trans 4,4'-1,4-cyclohexylene, or trans 1,4-cyclophenylene group; L represents F; and L.sup.1 and L.sup.2 represent H or F; n is 0, 1 or 2; and R.sup.2 represents H, R.sup.1 or PR.sup.1, wherein at least one compound thereof contains trans 1,4-cyclohexylene group or

total: 4 of 4 (104) http://westlib.siu.edu/cgi-bin/arexecv3.pl



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chain nodes :
  19 20 21 22
ring nodes :
  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
chain bonds :
  2-12 3-19 4-20 9-22 17-21 21-22
ring bonds :
  1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15
  15-16 16-17 17-18
exact/norm bonds :
  9-22 13-14 13-18 14-15 15-16 16-17 17-18 17-21 21-22
exact bonds :
  2-12 3-19 4-20
normalized bonds :
  1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12

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G1:C,O

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Match level :
  1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom
  12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:CLASS 20:CLASS
  21:CLASS 22:CLASS

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1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

[illegible]

Table 1. *Salmonella* serotypes and their associated diseases. The table lists the serotype, the disease, and the number of cases reported in the United States from 1990 to 1999. The data are presented in two columns: Serotype and Disease. The number of cases is given in parentheses next to the disease name.

11. Neelam Sanjiva Reddy (1960-1967)

PA. 2000. 1999. Patient Satisfaction. Spring 2000.

the 1990s, the number of people in the world who are under 15 years of age is expected to increase from 1.1 billion to 1.5 billion. The number of people aged 65 and over is expected to increase from 200 million to 400 million. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion.

[illegible]

Journal:

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The concentration of the *Agrobacterium* suspension was 10⁶ cells/ml (A), 10⁷ cells/ml (B), 10⁸ cells/ml (C), and 10⁹ cells/ml (D). The concentration of the *Agrobacterium* suspension was 10⁶ cells/ml (A), 10⁷ cells/ml (B), 10⁸ cells/ml (C), and 10⁹ cells/ml (D). The concentration of the *Agrobacterium* suspension was 10⁶ cells/ml (A), 10⁷ cells/ml (B), 10⁸ cells/ml (C), and 10⁹ cells/ml (D).

[illegible]

PI: JP 0000001474 AC: 0000000000 OF: 0000000000 E: 0000000000

PPA: DE 000 1000594; A: 000000

[illegible]

AN 2002:484690 CHPLUS

$\chi^2 = 0.96$, $p = .81$

71 Liquid crystal texture suitable for active matrix liquid crystal display
using **ECB** (electrically controlled birefringence) effects

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The concentration of the *Agrobacterium* suspension was 10⁶ cells/ml (○), 10⁷ cells/ml (□), 10⁸ cells/ml (△), 10⁹ cells/ml (◇), and 10¹⁰ cells/ml (×). The error bars represent the standard deviation of three independent experiments.

[illegible]

PA Merck Patent G.m.b.H., Germany

SC Ger. Offen., 40 pp.

CODE: 340000

DT Patent

REFERENCES

FAM. CRY. 1

| PATENT NO. | FILED DATE | APPLICATION NO. | DATE |
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| WO | 2002051963 | A1 | 20020734 | WO | 2001 | EP11089 | 20010925 |
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| AA | AB | AC | AD | AE | AF | AG | AH | AI | AJ | AK | AL | AM | AN | AO | AP | AQ | AR | AS | AT | AU | AV | AW | AX | AY | AZ | BA | BB | BC | BD | BE | BF | BG | BH | BI | BJ | BK | BL | BM | BN | BO | BP | BQ | BR | BS | BT | BU | BV | BW | BX | BY | BZ | CA | CB | CC | CD | CE | CF | CG | CH | CI | CJ | CK | CL | CM | CN | CO | CP | CQ | CR | CS | CT | CU | CV | CW | CX | CY | CZ | DA | DB | DC | DD | DE | DF | DG | DH | DI | DJ | DK | DL | DM | DN | DO | DP | DQ | DR | DS | DT | DU | DV | DW | DX | DY | DZ | EA | EB | EC | ED | EE | EF | EG | EH | EI | EJ | EK | EL | EM | EN | EO | EP | EQ | ER | ES | ET | EU | EV | EW | EX | EY | EZ | FA | FB | FC | FD | FE | FF | FG | FH | FI | FJ | FK | FL | FM | FN | FO | FP | FQ | FR | FS | FT | FU | FV | FW | FX | FY | FZ | GA | GB | GC | GD | GE | GF | GG | GH | GI | GJ | GK | GL | GM | GN | GO | GP | GQ | GR | GS | GT | GU | GV | GW | GX | GY | GZ | HA | HB | HC | HD | HE | HF | HG | HH | HI | HJ | HK | HL | HM | HN | HO | HP | HQ | HR | HS | HT | HU | HV | HW | HX | HY | HZ | IA | IB | IC | ID | IE | IF | IG | IH | II | IJ | IK | IL | IM | IN | IO | IP | IQ | IR | IS | IT | IU | IV | IW | IX | IY | IZ | JA | JB | JC | JD | JE | JF | JG | JH | JI | JJ | JK | JL | JM | JN | JO | JP | JQ | JR | JS | JT | JU | JV | JW | JX | JY | JZ | KA | KB | KC | KD | KE | KF | KG | KH | KI | KJ | KL | KM | KN | KO | KP | KQ | KR | KS | KT | KU | KV | KW | KX | KY | KZ | LA | LB | LC | LD | LE | LF | LG | LH | LI | LJ | LK | LM | LN | LO | LP | LQ | LR | LS | LT | LU | LV | LV | LW | LX | LY | LZ | MA | MB | MC | MD | ME | MF | MG | MH | MI | MJ | MK | ML | MM | MN | MO | MP | MQ | MR | MS | MT | MU | MV | MW | MX | MY | MZ | NA | NB | NC | ND | NE | NF | NG | NH | NI | NJ | NK | NL | NM | NN | NO | NP | NQ | NR | NS | NT | NU | NV | NW | NX | NY | NZ | OA | OB | OC | OD | OE | OF | OG | OH | OI | OJ | OK | OL | OM | ON | OO | OP | OQ | OR | OS | OT | OU | OV | OW | OX | OY | OZ | PA | PB | PC | PD | PE | PF | PG | PH | PI | PJ | PK | PL | PM | PN | PO | PP | PQ | PR | PS | PT | PU | PV | PW | PX | PY | PZ | QA | QB | QC | QD | QE | QF | QG | QH | QI | QJ | QK | QL | QM | QN | QO | QP | QQ | QR | QS | QT | QU | QV | QW | QX | QY | QZ | RA | RB | RC | RD | RE | RF | RG | RH | RI | RJ | RK | RL | RM | RN | RO | RP | RQ | RR | RS | RT | RU | RV | RW | RX | RY | RZ | SA | SB | SC | SD | SE | SF | SG | SH | SI | SJ | SK | SL | SM | SN | SO | SP | SQ | SR | SS | ST | SU | SV | SW | SX | SY | SZ | TA | TB | TC | TD | TE | TF | TG | TH | TI | TJ | TK | TL | TM | TN | TO | TP | TQ | TR | TS | TU | TV | TW | TX | TY | TZ | UA | UB | UC | UD | UE | UF | UG | UH | UI | UJ | UK | UL | UM | UN | UO | UP | UQ | UR | US | UT | UU | UV | UW | UX | UY | UZ | VA | VB | VC | VD | VE | VF | VG | VH | VI | VJ | VK | VL | VM | VN | VO | VP | VQ | VR | VS | VT | VU | VV | VW | VX | VY | VZ | WA | WB | WC | WD | WE | WF | WG | WH | WI | WJ | WK | WL | WM | WN | WO | WP | WQ | WR | WS | WT | WU | WV | WW | WX | WY | WZ | XA | XB | XC | XD | XE | XF | XG | XH | XI | XJ | XK | XL | XM | XN | XO | XP | XQ | XR | XS | XT | XU | XV | XW | XX | XY | XZ | YA | YB | YC | YD | YE | YF | YG | YH | YI | YJ | YK | YL | YM | YN | YO | YP | YQ | YR | YS | YT | YU | YV | YW | YX | YY | YZ | ZA | ZB | ZC | ZD | ZE | ZF | ZG | ZH | ZI | ZJ | ZK | ZL | ZM | ZN | ZO | ZP | ZQ | ZR | ZS | ZT | ZU | ZV | ZW | ZX | ZY | ZZ |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

RECEIVED BY THE DIRECTOR, FBI, 11/11/64

OS MAPPA 137: 10567

2. **ANALYSIS** – The analysis of the data was done using the following steps:

[illegible]

EN 13054-1999

TI. A large number of studies have shown negative effects of alcohol on the ability to drive. The effects of alcohol on the ability to drive are well known and have been extensively studied. The effects of alcohol on the ability to drive are well known and have been extensively studied.

IN BREMEN, MATTHIAS FRITZKE, 44, AKA, REGISTERED, MICHIGAN

FA 2002 2003 2004 2005 2006 2007 2008 2009

Figure 1 is a schematic representation of the experimental design. It shows a sequence of three events: 'Stimulus', 'Response', and 'Feedback'. Each event is represented by a box containing a face. Arrows indicate the flow from Stimulus to Response, and from Response to Feedback. The 'Response' box is labeled 'Response' and shows a hand pressing a button. The 'Feedback' box is labeled 'Feedback' and shows a face with a smile. The entire sequence is enclosed in a larger box labeled 'Experiment'.

$$\begin{array}{l}
 \text{1984} = 8 \quad 2000 = 16 \quad 2001 = 17 \quad 2002 = 18 \quad 2003 = 19 \quad 2004 = 20 \quad 2005 = 21 \quad 2006 = 22 \\
 \text{2007} = 23 \quad 2008 = 24 \quad 2009 = 25 \quad 2010 = 26 \quad 2011 = 27 \quad 2012 = 28 \quad 2013 = 29 \quad 2014 = 30
 \end{array}$$
[illegible]

2.4. Journal

[illegible]

TABLE 1. *Summary of the 1997-1998 season*

the 1990s, the number of people in the world who are under 15 years of age is expected to increase from 1.1 billion to 1.5 billion. The number of people aged 65 and over is expected to increase from 250 million to 450 million. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion.

L6 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2002 ACS
 AN 2000:15704 CAPLUS
 DN 132:126137
 TI Liquid crystal mixture with negative dielectric anisotropy for liquid crystal display
 IN Plasen, Michael; Weimer, Christian; Tourn, Nicolas; Bremer, Matthias
 PA Merck Patent GmbH, H., Germany
 SO Ger. Offen., 16 pp.
 CODEN: EPXXLW
 DT Patent
 LA German
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | EP 1146104 | A2 | 20010110 | EP 2001 107879 | 20010411 |
| | EP 1146104 | A3 | 20020130 | | |
| | P: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, NL, NO, SE, SI, SK, TR, UA, US, JP, IE, LI, LV, PT, FI, PL | | | | |
| | DE 10112958 | A1 | 20011122 | DE 2001 1012958 | 20011317 |
| | US 2002014613 | A1 | 20020207 | US 2001 863743 | 20010413 |
| | JP 2001354987 | A2 | 20011225 | JP 2001 116758 | 20010415 |
| PRAI | DE 2001 1011894 | A | 20010414 | | |
| CS | MAPPAT 132:126137 | | | | |

L6 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2002 ACS
 AN 2000:15704 CAPLUS
 DN 132:71465
 TI Liquid crystal composition for active matrix liquid crystal display based on ECB (electrically controlled birefringence) effect
 IN Heckmeier, Michael; Bremer, Matthias; Klement, Dagmar
 PA Merck Patent GmbH, H., Germany
 SO Ger. Offen., 16 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------------|------|----------|------------------|----------|
| PI | DE 19927627 | A1 | 20001104 | DE 1999 10927627 | 19991617 |
| | JP 2000038555 | A2 | 20010215 | JP 1999 184987 | 19991631 |
| | US 6217953 | B1 | 20010417 | US 1999 093412 | 19991631 |
| PRAI | DE 1998-19809089 | A1 | 19980617 | | |
| CS | MAPPAT 132:71465 | | | | |

L6 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2002 ACS
 AN 1998:404009 CAPLUS
 DN 129:100307
 TI Preparation of difluorophenyl derivatives as liquid crystal compounds and liquid crystal composition
 IN Hato, Takashi; Matsui, Shunichi; Miyazawa, Kazutoshi; Takeshita, Fusayuki; Nakagawa, Eisuo
 PA Chisso Corp., Japan; Hato, Takashi; Matsui, Shunichi; Miyazawa, Kazutoshi; Takeshita, Fusayuki; Nakagawa, Eisuo
 SO JPT Int. Appl., 11 pp.
 CODEN: FIKXUJ
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 98/174 | A1 | 19980617 | WO 98/174 | 19981119 |
| | W: AU, AT, BE, BR, CA, CH, DE, DK, ES, FR, GB, GR, IE, IL, IN, IT, JP, KR, LI, LU, NL, NO, NZ, PL, PT, SE, SI, SK, TR, UA, US, JP, IE, LI, LV, PT, FI, PL | | | | |

AL, AP, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UU, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

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 R: LE
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 FRAI 01 1994 103211 A 19971211
 WD 1997 194811 W 19971119
 JS MAPPAT 1097102127

nematic liq. crystal compns. with low viscosity and high neg.
anisotropy of dielec. const. for displays

LI liquid crystal

nomatic nematic liq. crystal compns. with low viscosity and high neg.
anisotropy of dielec. const. for displays

17 47889-41-6D, mixts. contg. 47889-4-6D, mixts. contg. 73288-42-6D,
mixts. contg. 74284-43-7D, mixts. contg. 74716-44-8D, mixts. contg.
80444-44-11, mixts. contg. 83241-45-11, mixts. contg. 84681-46-1D,
mixts. contg. 84757-47-11, mixts. contg. 84811-48-2D, mixts. contg.
85410-49-2D, mixts. contg. 88138-50-11, mixts. contg. 88410-51-7D,
mixts. contg. 88410-52-11, mixts. contg. 88410-54-6D, mixts. contg.
94624-41-8D, mixts. contg. 94624-43-1D, mixts. contg. 94624-52-1D,
mixts. contg. 118881-30-6D, mixts. contg. 118788-10-1D, mixts. contg.
123660-48-6D, mixts. contg. 124728-48-9D, mixts. contg.
124728-51-1D, mixts. contg. 124728-57-6D, mixts. contg. 126318-25-1D,
mixts. contg. 126738-34-7D, mixts. contg. 131790-50-3D, mixts. contg.
133366-39-9D, mixts. contg. 134390-35-1D, mixts. contg. 181369-18-6D,
mixts. contg. 189750-98-9D, mixts. contg. 97012-45-6D, mixts.
contg. 252960-22-6D, mixts. contg. 253194-16-6D, mixts. contg.
253676-69-6D, mixts. contg. 321308-88-7D, mixts. contg. 321308-89-8D,
mixts. contg. 321308-95-6D, mixts. contg. 321308-96-7D, mixts. contg.
321308-98-9D, mixts. contg. 321319-13-9D, mixts. contg. 321319-14-1D,
mixts. contg. 321395-36-2D, mixts. contg. 323575-18-8D, mixts.
contg. 323575-44-6D, mixts. contg. 323575-45-7D, mixts. contg.
323575-46-8D, mixts. contg. 323575-48-3D, mixts. contg. 329014-46-2D,
mixts. contg. 329014-47-3D, mixts. contg. 329014-48-4D, mixts. contg.
329014-49-5D, mixts. contg. 329014-50-6D, mixts. contg. 329014-51-9D,
mixts. contg. 335165-45-3D, mixts. contg. 335165-23-2D, mixts. contg.
335165-33-8D, mixts. contg. 335165-37-2D, mixts. contg. 335165-38-3D,
mixts. contg. 335165-42-9D, mixts. contg. 335165-44-1D, mixts. contg.
335165-47-4D, mixts. contg. 362053-47-2D, mixts. contg. 362053-48-3D,
mixts. contg. 362053-49-4D, mixts. contg. 362053-50-9D, mixts. contg.
362053-54-1D, mixts. contg. 362053-55-2D, mixts. contg. 362053-56-3D,
mixts. contg. 362053-57-4D, mixts. contg. 362053-58-5D, mixts. contg.
362053-59-6D, mixts. contg. 362053-60-9D, mixts. contg. 362053-61-2D,
mixts. contg. 362053-62-1D, mixts. contg. 362053-63-2D, mixts.
contg. 362053-64-3D, mixts. contg. 362053-65-4D, mixts. contg.
362053-66-5D, mixts. contg. 362053-67-6D, mixts. contg. 362053-68-7D,
mixts. contg. 362053-69-8D, mixts. contg. 362053-70-1D, mixts. contg.
362053-71-2D, mixts. contg. 362053-72-3D, mixts. contg.
362053-73-4D, mixts. contg.

PL DEV Device component use : UNRES. Tree

nematic liq. crystal compns. with low viscosity and high neg.
anisotropy of dielec. const. for displays

19 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2012 ACS

AN 2001:288927 CAPLUS

LN 134:318783

TI Nematic liquid crystal compositions and liquid crystal display devices

IN Yanai, Motoki; Kubi, Yasuhiko; Nakagawa, Hisao

PA Chisso Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 20 pp.

COEN: JPXXAF

FT Patent

LA Japanese

LC 1CM 039F019 42

ICS 039K019 34; G02F001 13

CC 04 13 Radiation Chemistry, Phot Chemistry, and Photo Graphic and Other
Reprographic Processes

Section class reference s 14 13 03

PAN,INT 1

PATENT N. 1000 1A1F 1000 1A1F 1000 1A1F 1000 1A1F

FI 01 10000000 01 10000000 01 10000000 01 10000000

AB The comps. contain 1 ignored, 1 compds. selected from 1 and 12 ignored, 1 compds. selected from 11 and 111. R1, R1, R5 = C1-10 alkyl, C2-10 **alkenyl**; R2, R4, R6 = C1-10 alkyl, alkoxy, C2-10 **alkenyl**; Z1-5 = single bond, CH=CH; A1 = 1,4 phenylene, trans 1,4 cyclohexylene; A2 = fluoro 1,4 phenylene, trans 1,4 cyclohexylene. The comps. may also contain other cyclohexyl compds. given in Markush structures. Liq. crystal display devices comprising the above stated comps. are also claimed. The comps. have low viscosity and ideal DELTA_n depending on the cell thickness.

fluorophenyl; hydroxyphenyl compound; liquid crystal; liquid crystal display
fluorophenyl; hydroxyphenyl blend

17. Liquid crystal displays

4-difluorophenyl oxaz. tetrahydo pyran 2-mpi. normal liq. crystal.
mixts. for displays

17 Liquid crystals

energetic; difluorophenyl; contg. tetrahydropyran compd.; peracetic acid; crystals; mixture; for display

[illegible]

crystal mixts. contg. 335165 28 4D, liq. crystal mixts. contg.
 335165 29 4D, liq. crystal mixts. contg. 335165 30 4D, liq. crystal
 mixts. contg. 335165 31 4D, liq. crystal mixts. contg. 335165 32 4D,
 liq. crystal mixts. contg. 335165 33 4D, liq. crystal mixts. contg.
 335165 34 4D, liq. crystal mixts. contg. 335165 35 4D, liq. crystal
 mixts. contg. 335165 36 4D, liq. crystal mixts. contg. 335165 37 4D,
 liq. crystal mixts. contg. 335165 38 4D, liq. crystal mixts. contg.
 335165 39 4D, liq. crystal mixts. contg. 335165 40 4D, liq. crystal
 mixts. contg. 335165 41 4D, liq. crystal mixts. contg. 335165 42 4D,
 liq. crystal mixts. contg. 335165 43 4D, liq. crystal mixts. contg.
 335165 44 4D, liq. crystal mixts. contg. 335165 45 4D, liq. crystal
 mixts. contg. 335165 46 4D, liq. crystal mixts. contg. 335165 47 4D,
 liq. crystal mixts. contg. 335165 48 4D, liq. crystal mixts. contg.
 335165 49 4D, liq. crystal mixts. contg.
 PL: CHE (Device component use); TEM (Technical or engineered material
 use); USES
 difluorophenyl contg. tetrahydroxyran compd. nematic liq. crystal
 mixts. for displays

LD ANSWER 3 P 14 PARLMS 2 1401001 1111 ACB
 AN 210109732 PARLMS
 DN 134:155312
 TI Liquid crystal compositions and liquid crystal displays with wide view
 angle
 IN Yanai, Motoki; Kuba, Yasuhiro; Nakagawa, Eisuo
 PA Chisso Corp., Japan
 SC Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JPXXAF
 DT Patent
 LA Japanese
 IC ICM C09K019 40
 ICS C09K019 42; C09K019 48; G02F001 13
 CC 74 13 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes
 Section cross reference s : 75

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------|------|----------|-----------------|----------|
| FI | JP 2001031472 | A2 | 20010224 | JP 1999-206701 | 19990721 |
| | US 6398164 | B1 | 20010304 | US 2000 004199 | 20000721 |
| PPAI | JP 1999-206701 | A | 19990721 | | |
| OS | MARPAT 134:155312 | | | | |
| GI | | | | | |

[illegible]

Figure 1. (a) Schematic diagram of the experimental setup. (b) Schematic diagram of the experimental setup.

Figure 1

AB The polymer for a liq. crystal layer of a l.i.d. crystal display has structure I R = R', R'CO, R'COO, alkoxy, R' = C₁ to alkyl, **alkenyl**, A: D = cyclohexane, aryl. The polymer provides a liq. crystal display device having little deterioration of the response speed and of the voltage light transmittance characteristics and little burned residual image.

17 Polymers, preparation

Table 1. *Continued*

237769-57-2P 237769-57-4 237769-57-5 237769-58-0P 237769-58-1P
237769-57-2P 237769-58-4 237769-57-5P 237769-63-0P
237769-58-3P

99-12-9, 1,4-dioxane 94-4-4, reactions 94-3-4, Aryl chlorides
 99-11-9, 1,1-Dichloroethene 43-12-1, Perfluorobutyl iodide
 99-10-9, 4-Pyridyl-2-methylamine 943-47-1, 1-Perfluorobutyl ethanol
 9908-6-1, 9908-12-9, 4-Trans-4-Pentylcyclohexyl biphenyl
 9909-12-9, 4-Trans-1-Ethylcyclohexyl cyclohexanone 10243-12-1
 10344-12-1, 10344-12-1, 10344-12-1

polymer and cured polymer: thickness: 1.5 μ m, crystal layer: 1.5 μ m.
crystal display device

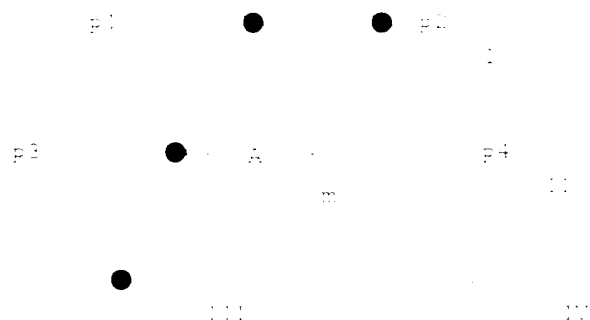
1. *Pharmaceutical industry* – The pharmaceutical industry is the largest of the three industries, with sales of \$10.5 billion in 1997. It is the only industry that has a significant presence in all three markets.

Table 1. *Continued*

BA Merck Patent GmbH, H. H. Germany
 CA Appl. Patent 1996, P. 1, 1996
 CIPRI: CIPRIAP
 DI Patent
 DA Japanese
 IC IOM CIPRI 42
 ICS CIPRI 31, CIPRI 44, CIPRI 13
 CC 24 13 Radiat. Chem. Chem. Ind. Chemistry And Inorganic and 1996
 Repr. Graph. Processes
 Section 1996 reference 1996

PAN.ONT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| P1 | JP 11140447 | A2 | 19990815 | JP 1998 242686 | 19980828 |
| | US 6066268 | A | 20000803 | US 1998 148111 | 19980818 |
| PPA1 | EP 1997 119200 | | 19971114 | | |
| | EP 1997 119784 | | 19971112 | | |
| CP | MAPPAT 1114789 | | | | |
| CI | | | | | |



AB A liq. crystal compn. showing a neg. dielec. anisotropy and suited for use in a display device comprises 1st req'd compn. represented by the formula I: P1 = alkyl or alkoxy having 1-8 C atoms or **alkenyl** having 2-7 C atoms; P2 = **alkenyl** having 1-7 C atoms and 1st req'd compd. represented by the formula II: P3, P4 = alkyl or alkoxy having 1-8 C atoms; A = III or IV; m = 1 or 2.

ST liq crystal display alkylcyclohexylcyclohexane
 alkylcyclohexyldifluorobenzene

IT Liquid crystal displays

liq. crystal compns. with neg. dielec. anisotropy and conta.

alkylcyclohexylcyclohexane and alkylcyclohexyldifluorobenzene for

IT 19709 84 B 19709 85 B 19944 44 1 8193 30 B 82901 47 B
 81981 48 B 81171 55 B 44841 17 4 81024 52 1 118013 43 B
 123560 48 B 124728 81 2 124728 82 9 129738 84 7 181358 82 B
 181358 83 B 17481 1 1 17481 1 2 17481 1 4 197012-75-2

FI: DEV. Device component use = TEM. Technical or engineered material.
 use = USES. Uses

electrooptical display devices with liq. crystal compns. conta.

IT 118012 47 B 118012 48 B

FI: DEV. Device component use = TEM. Technical or engineered material.
 use = USES. Uses

liq. crystal compns. for electrooptical display devices

DI ANSWER 1 IF 14. TABLE 1 CONTAINS 1.1. A.1.

AN 197012-75-2

EN 197012-75-2

FI 197012-75-2 liq. crystal compns.

Figure 1. The effect of the number of trials on the number of correct responses. The number of correct responses was significantly higher for the 10 trials condition than for the 5 trials condition. The number of correct responses was significantly higher for the 10 trials condition than for the 5 trials condition. The number of correct responses was significantly higher for the 10 trials condition than for the 5 trials condition.

German

[illegible]

Figure 1. Schematic representation of the experimental design. The subjects were divided into two groups: the control group (n = 10) and the experimental group (n = 10). The control group received a placebo (P) and the experimental group received a 10% solution of the active ingredient (A). The subjects were divided into two groups: the control group (n = 10) and the experimental group (n = 10). The control group received a placebo (P) and the experimental group received a 10% solution of the active ingredient (A). The subjects were divided into two groups: the control group (n = 10) and the experimental group (n = 10). The control group received a placebo (P) and the experimental group received a 10% solution of the active ingredient (A).

11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847

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an important document for the study of the history of the city of New York.

III. Liquid crystals

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PL: MOA (Modifier or additive use : SUR) Scientific preparation : 00000

Preparation for Users' Needs

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THE UNIVERSITY OF CHICAGO

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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

[illegible]

\mathcal{H}^1 \mathcal{H}^2 \mathcal{H}^3 \mathcal{H}^4 \mathcal{H}^5 \mathcal{H}^6 \mathcal{H}^7 \mathcal{H}^8 \mathcal{H}^9 \mathcal{H}^{10} \mathcal{H}^{11} \mathcal{H}^{12} \mathcal{H}^{13} \mathcal{H}^{14} \mathcal{H}^{15} \mathcal{H}^{16} \mathcal{H}^{17} \mathcal{H}^{18} \mathcal{H}^{19} \mathcal{H}^{20} \mathcal{H}^{21} \mathcal{H}^{22} \mathcal{H}^{23} \mathcal{H}^{24} \mathcal{H}^{25} \mathcal{H}^{26} \mathcal{H}^{27} \mathcal{H}^{28} \mathcal{H}^{29} \mathcal{H}^{30} \mathcal{H}^{31} \mathcal{H}^{32} \mathcal{H}^{33} \mathcal{H}^{34} \mathcal{H}^{35} \mathcal{H}^{36} \mathcal{H}^{37} \mathcal{H}^{38} \mathcal{H}^{39} \mathcal{H}^{40} \mathcal{H}^{41} \mathcal{H}^{42} \mathcal{H}^{43} \mathcal{H}^{44} \mathcal{H}^{45} \mathcal{H}^{46} \mathcal{H}^{47} \mathcal{H}^{48} \mathcal{H}^{49} \mathcal{H}^{50} \mathcal{H}^{51} \mathcal{H}^{52} \mathcal{H}^{53} \mathcal{H}^{54} \mathcal{H}^{55} \mathcal{H}^{56} \mathcal{H}^{57} \mathcal{H}^{58} \mathcal{H}^{59} \mathcal{H}^{60} \mathcal{H}^{61} \mathcal{H}^{62} \mathcal{H}^{63} \mathcal{H}^{64} \mathcal{H}^{65} \mathcal{H}^{66} \mathcal{H}^{67} \mathcal{H}^{68} \mathcal{H}^{69} \mathcal{H}^{70} \mathcal{H}^{71} \mathcal{H}^{72} \mathcal{H}^{73} \mathcal{H}^{74} \mathcal{H}^{75} \mathcal{H}^{76} \mathcal{H}^{77} \mathcal{H}^{78} \mathcal{H}^{79} \mathcal{H}^{80} \mathcal{H}^{81} \mathcal{H}^{82} \mathcal{H}^{83} \mathcal{H}^{84} \mathcal{H}^{85} \mathcal{H}^{86} \mathcal{H}^{87} \mathcal{H}^{88} \mathcal{H}^{89} \mathcal{H}^{90} \mathcal{H}^{91} \mathcal{H}^{92} \mathcal{H}^{93} \mathcal{H}^{94} \mathcal{H}^{95} \mathcal{H}^{96} \mathcal{H}^{97} \mathcal{H}^{98} \mathcal{H}^{99} \mathcal{H}^{100}

| | | | | | | | | | | | | | | |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| $\frac{7}{8}$ | $\frac{6}{8}$ | $\frac{5}{8}$ | $\frac{4}{8}$ | $\frac{3}{8}$ | $\frac{2}{8}$ | $\frac{1}{8}$ | $\frac{0}{8}$ | $\frac{-1}{8}$ | $\frac{-2}{8}$ | $\frac{-3}{8}$ | $\frac{-4}{8}$ | $\frac{-5}{8}$ | $\frac{-6}{8}$ | $\frac{-7}{8}$ |
| $\frac{7}{8}$ | $\frac{6}{8}$ | $\frac{5}{8}$ | $\frac{4}{8}$ | $\frac{3}{8}$ | $\frac{2}{8}$ | $\frac{1}{8}$ | $\frac{0}{8}$ | $\frac{-1}{8}$ | $\frac{-2}{8}$ | $\frac{-3}{8}$ | $\frac{-4}{8}$ | $\frac{-5}{8}$ | $\frac{-6}{8}$ | $\frac{-7}{8}$ |

[illegible][illegible][illegible]

Fig. 1. The dependence of the rate of the reaction of the polymerization of α -methylstyrene on the concentration of the initiator.

* The number of cases was too small to allow calculation of rates.

[illegible][illegible]

1. Polymers for liquid crystal electro-optical display device
 2. Liquid crystal displays

192722-03-5

19 ANSWER: 14. SAYED: "I'VE GOT A NEW JOB."

AN 1997:377704 CAPLUS

DN 126:349711

17. Liquid crystal composition and liquid crystal display element comprising the same

1. The first group of variables includes the following:

PA Shin Etsu Chemical Co., Ltd., Japan

50 Fed. Nat. App. 100 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C09K019 40

CC 74-13 Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes:

Section cross reference is 15

ACKNOWLEDGMENTS

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|-----------|-----------------|-----------|
| EP 748461 | A1 | 199701414 | EP 1996 000477 | 19960104 |
| P: DE, GB | | | | |
| JP 09169977 | B2 | 199701060 | JP 1996 000040 | 199601010 |
| US 5980778 | A | 199901009 | US 1996 000000 | 199601010 |

[illegible]

00000000000000000000000000000000

10

[illegible]

AB The invention presents an excellent liq. crystal display compn. possessing a neg. dielec. anisotropy, comprising one or more compds. represented by the formulas I-IV where R₁ is alkyl, alkoxyalkyl, aryl or dialkylaryl, or **alkenyl**, with each of up having 2 to 7 carbon atoms; n₁, n₂, p and q denote 0, 1, 2 with p and q being 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815,

opt. display p. 41.
 LI liquid crystal compn. display device
 IT liquid crystal displays
 LIQ. crystal compns. with neg. dielct. anisotropy for
 IT 84360 93 3 84360 96 3 84816 88 8 100714 99 2 116349 49 9
 123560-47-4 123560 80 4 124709 12 8 142099 17 1
 163965 94 4 169221 88 4 170563 78 5 171541 81 2 171641 81 4
 171102 10 6 173488 43 3 179617 41 3 179617 43 1 179617 83 5
 179617 91 8 181337 44 1 181337 77 3 184781 71 4 184781 81 9
 189750 80 5 189750 91 1 189750-95-6 189750-96-7
 189750 97 8 189750-98-9
 RI: TEM Technical or engineered material use ; USES Uses
 electrooptical display devices using liq. crystal compns. contg.
 IT 189750 67 2 189750 78 5 189750 83 2 189750 84 3 189750 89 8
 189750 91 2 189750 93 4 189750 94 5
 RI: TEM Technical or engineered material use ; USES Uses
 liq. crystal compn. for electrooptical display devices

LO ANSWER 10 OF 14 CAPLUS COPYRIGHT 2002 ACS
 AN 1996:107938 CAPLUS
 BN 124:216376
 TI Liquid crystal compounds, mixtures and devices
 IN Goodby, John William; Payne, Kenneth James de Brito, Michael; Lewis, Robert
 Andrew
 PA Secretary of State for Defence, UK
 SO PCT Int. Appl., 45 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C07C043 225
 ICS C09K019 30; C09K119 34; C09K119 42; C07C169 76; C07C169 83;
 C07D239 28
 CC 74-13 Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes.
 Section cross-reference s : 13

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------------------------------------------------------|------|----------|-----------------|----------|
| WO 9601046 | A1 | 19960118 | WO 1995 08185E | 19950831 |
| W: CN, GB, JP, FR, SG, US | | | | |
| FW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| GB 2305431 | A1 | 19970417 | GB 1996 01127 | 19960131 |
| GB 2305431 | B2 | 19981125 | | |
| EP 768998 | A1 | 19970423 | EP 1995 923446 | 19950630 |
| EP 768998 | B1 | 20010905 | | |
| R: DE, FR, GB | | | | |
| JP 10602652 | T0 | 19981310 | JP 1995 513727 | 19950630 |
| US 5798159 | A | 19981819 | US 1996 009851 | 19960131 |
| PRA1 GB 1994 13324 | A | 19940711 | | |
| WO 1995 08185E | W | 19950831 | | |

CS MARPAT 124:216376
 CI

F A K B C Y CHG N D
 .
 .
 .
 .

AB The present invention relates to a liquid crystal display device comprising an alkenyl-

37 display electrooptical liq. crystal, fluoro-biphenyl, cyclohexane deriv.
IT liquid crystals

IT fluoro-biphenylcyclohexane derivs.
IT Optical imaging devices
electrooptical liq. crystal, using fluoro-biphenylcyclohexane deriv. optig. media

IT 144833-84-8 144833-57-8 144902-15-8 144912-17-1
144912-17-1 144939-34-4

PL: PRP: Properties

liq. crystal media

IT 76802-59-0 76802-60-4 76719-85-6 41711-13-9 82832-57-3
84816-56-8 85312-59-0 102714-93-0 106174-38-3 106349-49-9
107215-66-7 107215-67-8 118164-51-5 121219-88-0 130746-75-7
130746-77-9 131746-79-1 131739-18-6 133914-49-5 133937-71-1
134149-97-6 134412-17-2 137019-95-5 137812-19-6 139191-32-6
139215-82-0 139215-83-1 139395-94-5 141111-17-1 144505-14-6
144505-15-7 144505-16-8 144505-17-9

PL: PRP: Properties

liq. crystal media optig.

L9 ANSWER 14 OF 14 CARLUS COPYRIGHT DATE ADD

AN 112:66887 CARLUS

DN 112:66887

TI 2,3-Difluorobiphenyls, their preparation, and liquid-crystal phases and display devices containing them

IN Reiffenrath, Volker; Krause, Joachim; Waechtler, Andreas; Weber, Georg; Finkenzeller, Ulrich; Coates, David; Sage, Ian Charles; Greenfield, Simon; Gray, George William; et al.

PA Merck Patent G.m.b.H., Fed. Rep. Ger.

SO Ger. Offen., 8 pp.

CODEN: GWXXBX

DT Patent

LA German

IC ICM C07C043 225

ICS C07C025 18; C07C069 75; C07C069 94; C09H019 31; C09H019 12;
G02F001 13

CC 74 33 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section Cross Reference s: 14, 15, 17, 28, 75

FANLONT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|----------|
| PI | DE 3807861 | A1 | 19890921 | DE 1988 3807861 | 19880310 |
| | WO 8908687 | A1 | 19890921 | WO 1989 EP180 | 19890227 |

W: JP, FR, US

FW: AT, BE, CH, DE, FR, GB, IT, NL, SE

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P: CH, DE, FR, GB, IT, NL

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prep. of. for dia. contact stages for display devices